

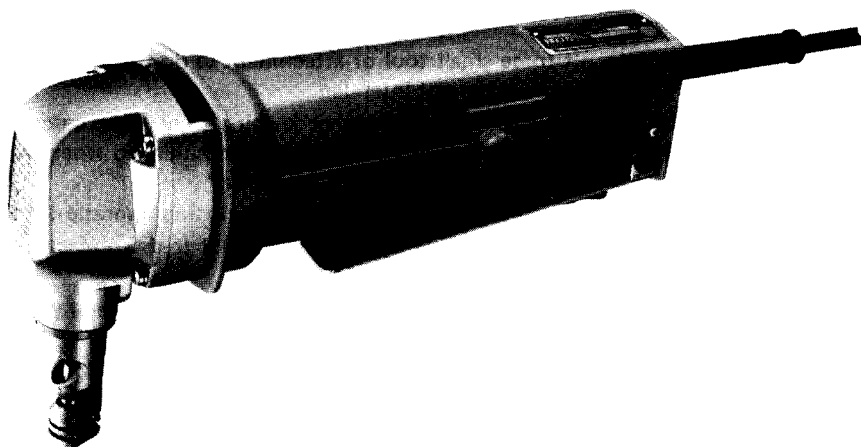
アメリカ



Makita Nibbler

MODEL JN1600

INSTRUCTION MANUAL



**DOUBLE
INSULATION**

received
3-16-84

Specifications

Max. cutting capacities		Min. cutting radius		Continuous rating (Input)	Strokes per minute	Overall length	Net weight	Power supply cord
Mild steel	Stainless	Outside edge	Inside edge					
1.6 mm (1/16")	1.2 mm (3/64")	15 mm (5/8")	7 mm (9/32")	300 W	2,200	245 mm (9-5/8")	1.5 kg (3.3 lbs)	2 m (6.6 ft.)

* Manufacturer reserves the right to change specifications of parts and accessories without notice.

* Note: Specifications of parts and accessories may vary from country to country.

IMPORTANT SAFETY INSTRUCTIONS

WARNING: When using electric tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury, including the following:

READ ALL INSTRUCTIONS.

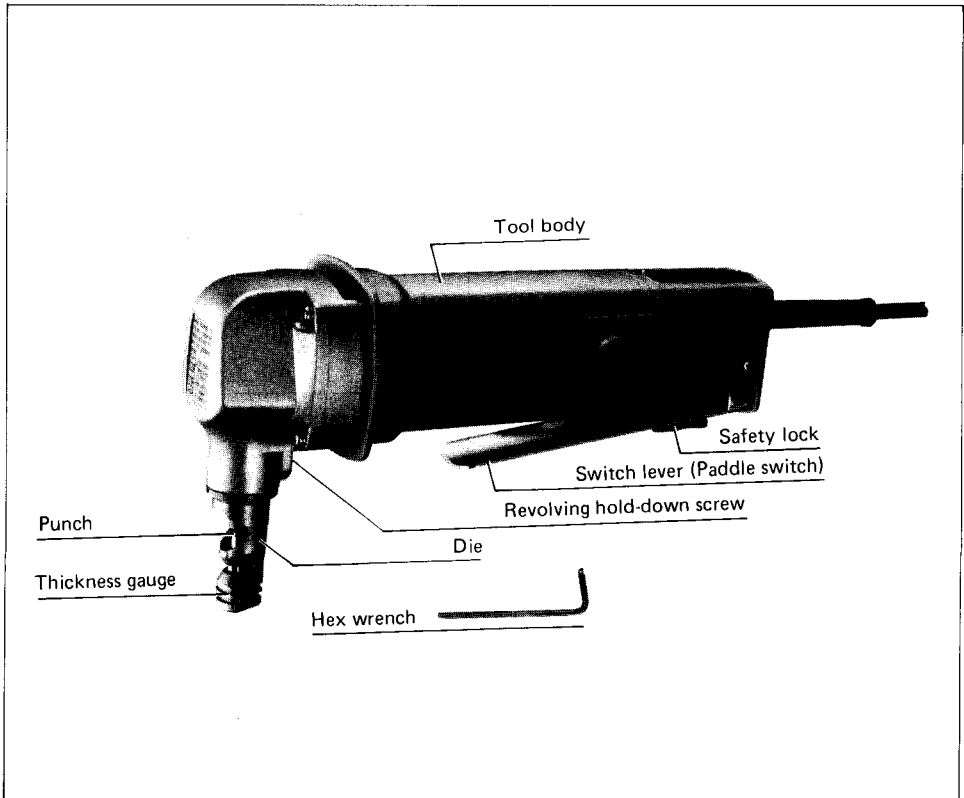
1. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
2. **CONSIDER WORK AREA ENVIRONMENT.** Don't use power tools in damp or wet locations. Keep work area well lit. Don't expose power tools to rain. Don't use tool in presence of flammable liquids or gases.
3. **KEEP CHILDREN AWAY.** All visitors should be kept away from work area. Don't let visitors contact tool or extension cord.
4. **STORE IDLE TOOLS.** When not in use, tools should be stored in dry, and high or locked-up place – out of reach of children.
5. **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.
6. **USE RIGHT TOOL.** Don't force small tool or attachment to do the job of a heavy-duty tool. Don't use tool for purpose not intended.
7. **DRESS PROPERLY.** Don't wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.
8. **USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty.
9. **DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
10. **SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
11. **DON'T OVERREACH.** Keep proper footing and balance at all times.
12. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and charging accessories. Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Keep handles dry, clean, and free from oil and grease.
13. **DISCONNECT TOOLS.** When not in use, before servicing, and when changing accessories, such as blades, bits, cutters.
14. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
15. **AVOID UNINTENTIONAL STARTING.** Don't carry plugged-in tool with finger on switch. Be sure switch is OFF when plugging in.
16. **OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords intended for use outdoors and so marked.
17. **STAY ALERT.** Watch what you are doing, use common sense. Don't operate tool when you are tired.
18. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding

of moving parts, breakage of parts, mounting, and other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Don't use tool if switch does not turn it on and off.

19. **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example; pipes, radiators, ranges, refrigerator enclosures.
 20. **REPLACEMENT PARTS.** When servicing, use only identical replacement parts.
- SAVE THESE INSTRUCTIONS.**

VOLTAGE WARNING: Before connecting the tool to a power source (receptacle, outlet, etc.) be sure the voltage supplied is the same as that specified on the nameplate of the tool. A power source with voltage greater than that specified for the tool can result in **SERIOUS INJURY** to the user — as well as damage to the tool. If in doubt, **DO NOT PLUG IN THE TOOL**. Using a power source with voltage less than the nameplate rating is harmful to the motor.

Nibbler & Standard Equipment



How to use

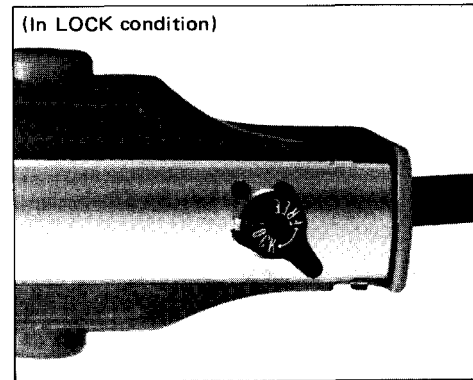
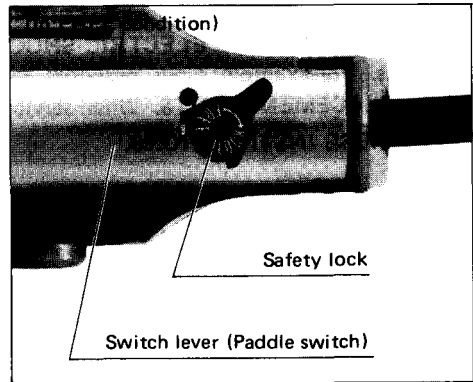
• Before cutting with the nibbler

Coat the cutting line with machine oil when cutting mild steel or stainless; use light oil when cutting aluminum.

• Switch operation

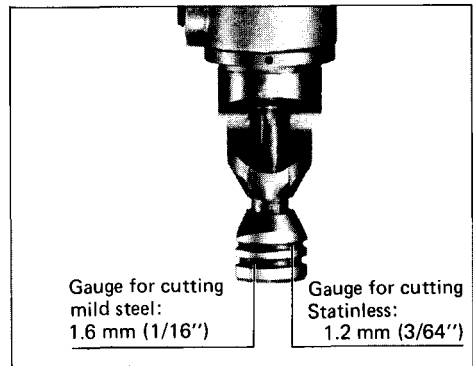
First, turn the safety lock to the FREE position. Then squeeze the switch lever (paddle switch) to put on the tool; release it to put it off.

Note: The switch lever (paddle switch) does not work with the safety lock in the LOCK position. Do not try to work the switch lever (paddle switch) with the safety lock on. Not using the tool, put on the safety lock.



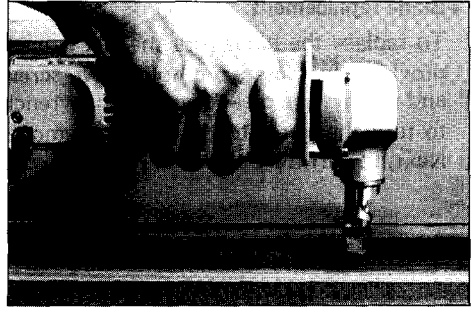
• Permissible cutting thickness

The groove in the end of the die serves as the gauge for allowable cutting thickness. Do not attempt to cut any plate that will not fit into this groove.



● Cutting method

Smooth cutting is achieved by holding the tool perpendicular to the material and moving it gently in the cutting direction. Apply machine oil to the punch and die about every 10 meters (33 ft) in order to assure clean cutting action.



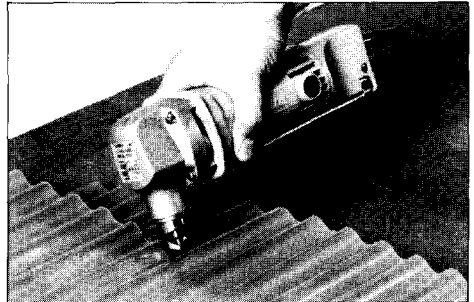
● Cutouts & interior shapes

Cutouts and interior shapes may be cut as long as there is a round hole about 18 mm (3/4") in diameter.



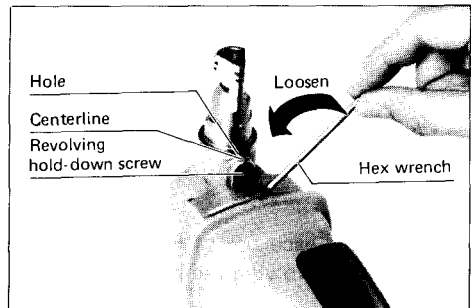
● Cutting corrugated metals

To cut corrugated sheet metals (with wave-like surfaces), change die orientation and hold the tool so that the cutting head is at an angle (as shown at right) for smooth cutting action.



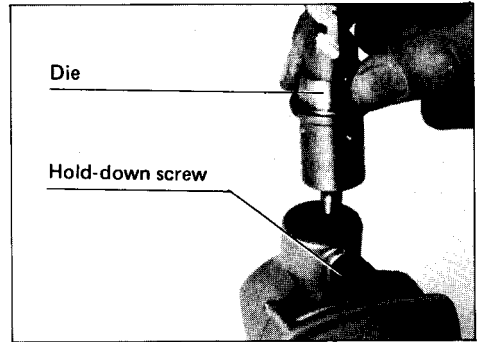
● To change die orientation

Use the hex wrench provided to loosen the hold-down screw over the die. This enables you to turn the die either 90° or 180°. Once you have change the die orientation, align the small hole on the outer edge of the die with the centerline of the hold-down screw, then fasten securely.

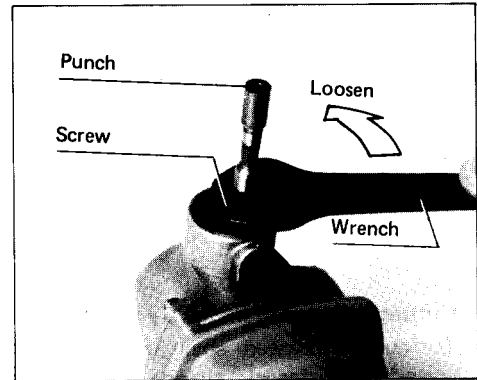


● Blade replacement

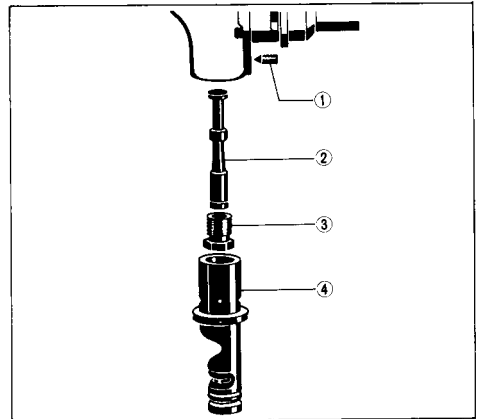
To replace the blade, use the hex wrench provided to loosen the hold-down screw and remove the die. Then, use the wrench to turn the screw to the left and remove. Next, lift off the punch.



To install the blade, secure the screw and hold-down screw carefully.



- ① Revolving hold-down screw
- ② Punch
- ③ Screw
- ④ Die

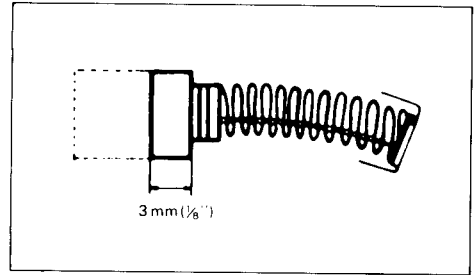


* Following each use of the tool, clean off the cutter head, and lubricate with machine oil, while revolving the head a few times. Not using the tool, put on the safety lock.

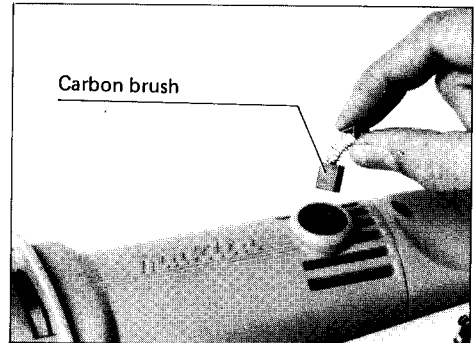
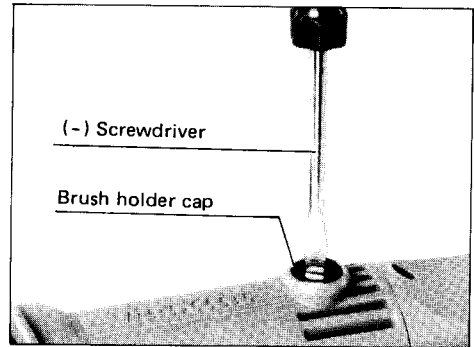
Maintenance

• Carbon brushes

Replace carbon brushes when they wear down to about 3 mm (1/8") or sparking will occur. Both brushes should be changed at the same time.



To replace the carbon brushes, use a minus (-) head screwdriver to remove the brush holder cap.



OPTIONAL ACCESSORIES

CAUTION: The use of any other accessories not specified in this manual might be hazardous.

●Die

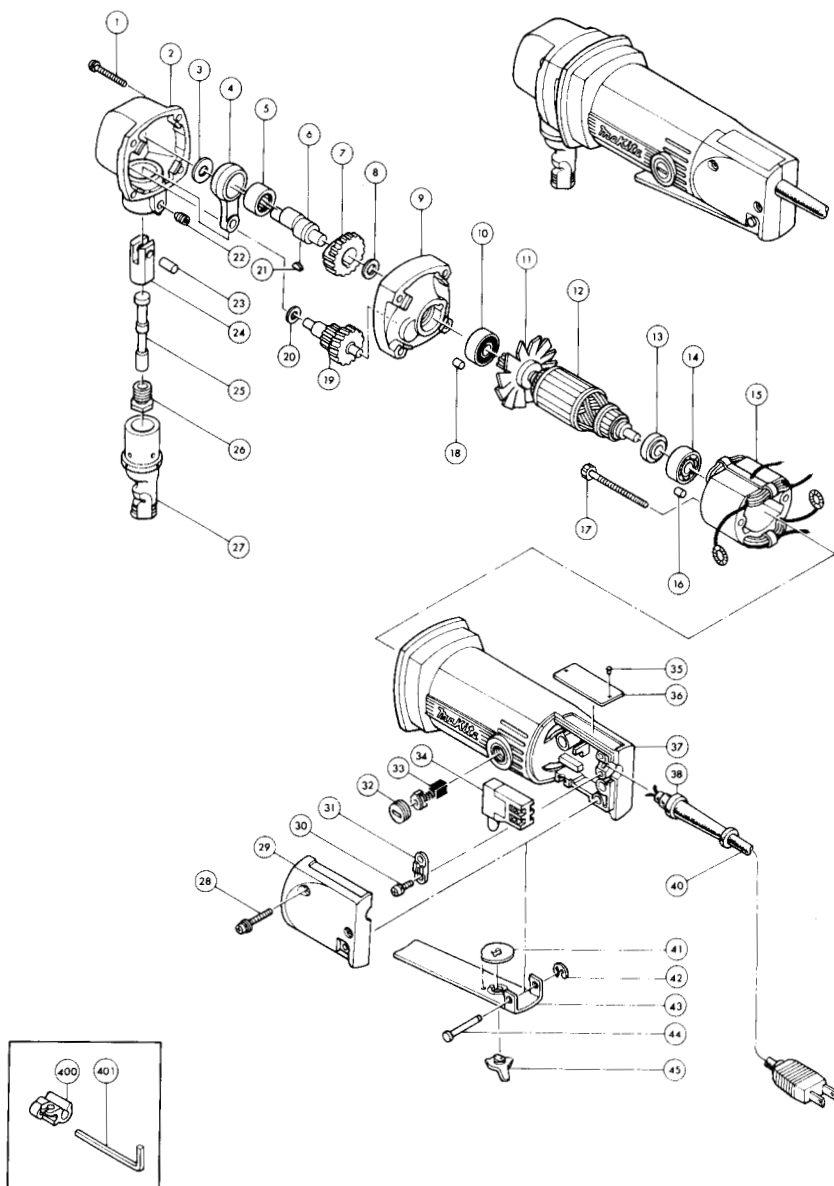
Part No. 725004-8



●Punch

Part No. 725005-6





ITEM NO.	NO. USED	DESCRIPTION	ITEM NO.	NO. USED	DESCRIPTION
<u>MACHINE</u>			<u>MACHINE</u>		
1	4	P. H. Screw M4x35 (With Washer)	25	1	Punch
2	1	Gear Housing (With Plane Bearing 6 & Needle Bearing 810)	26	1	Screw
3	1	F. Washer 8	27	1	Dice
4	1	Rod	28	2	P. H. Screw M4x30 (With Washer)
5	1	Needle Bearing 1412	29	1	Switch Cover
6	1	Crank Shaft	30	2	P. H. Screw M4x18 (With Washer)
7	1	Spur Gear 44	31	1	Strain Relief
8	1	F. Washer 8	32	2	Brush Holder Cap
9	1	Gear Housing Cover (With Needle Bearing 810 & Needle Bearing 609)	33	2	Carbon Brush CB-53
10	1	Ball Bearing 608LB	34	1	Switch
11	1	Fan 58	35	2	Rivet 0-5
12	1	ARMATURE ASSEMBLY (Assembled Items 10, 11, 12, 13 & 14)	36	1	Name Plate
13	1	Insulation Washer	37	1	Motor Housing (With Brush Holder x 2)
14	1	Ball Bearing 627LB	38	1	Cord Guard
15	1	FIELD ASSEMBLY (With Garter Spring x 2)	40	1	CORD ASSEMBLY (Assembled Cord, Plug & Cord Guard)
16	1	Rubber Pin 4	41	1	Leaf Spring
17	2	H. Bolt M4x55 (With Washer)	42	1	Stop Ring E-3
18	1	Rubber Pin 4			SWITCH LEVER ASSEMBLY (Assembled Items 41, 43 & 45)
19	1	Gear 23-37	43	1	Switch Lever
20	1	T. Washer 6	44	1	Pin 4
21	1	Woodruff Key 3	45	1	Safety Lock
22	1	S. Screw M6x10	<u>ACCESSORIES</u>		
23	1	Pin 6	400	1	Wrench Holder 3-7
24	1	Ram	401	1	H. Wrench 3

MAKITA LIMITED ONE YEAR WARRANTY

Warranty Policy

Every Makita tool is thoroughly inspected and tested before leaving the factory. It is warranted to be free of defects from workmanship and materials for the period of ONE YEAR from the date of original purchase. Should any trouble develop during this one-year period, return the COMPLETE tool, freight prepaid, to one of Makita's Factory or Authorized Service Centers. If inspection shows the trouble is caused by defective workmanship or material, Makita will repair (or at our option, replace) without charge.

This Warranty does not apply where:

- repairs have been made or attempted by others;
- there is evidence of normal wear and tear;
- The tool has been abused, misused or improperly maintained;
- alterations have been made to the tool.

IN NO EVENT SHALL MAKITA BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THE PRODUCT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF THIS WARRANTY.

MAKITA DISCLAIMS LIABILITY FOR ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF "MERCHANTABILITY" AND "FITNESS FOR A SPECIFIC PURPOSE," AFTER THE ONE-YEAR TERM OF THIS WARRANTY.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.



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